

REMARKS

The amendment to the paragraph on page 8, lines 15-27 serves to correct an inadvertent typographical error in which a hyphen was misplaced. The amendment to the paragraph on page 9, lines 3-17 serves only to correct an inadvertent typographical error in which diphenylmethane diisocyanate was referred to instead of toluene diisocyanate. It is evident that the present specification and claims are directed to toluene diisocyanate, not diphenylmethane diisocyanate. Accordingly, one of ordinary skill in the art would recognize that this was an inadvertent error. Applicants respectfully submit that no new matter has been added by these amendments.

Restriction under 35 U.S.C. 121 to one invention was required. The separate inventions were identified as follows: Group I containing Claims 1-5 and 11-15, Group II containing Claims 6-10 and 16-20, Group III containing Claims 21-23 and 28-30, and Group IV containing Claims 24-27 and 31-34. The claims of Group I are directed to a stable liquid biuret modified toluene diisocyanate. The claims of Group II are directed to a process for the preparation of a stable liquid biuret modified toluene diisocyanate. Group III contains claims directed to a stable liquid prepolymer of biuret modified toluene diisocyanate. The claims of Group IV are directed to a process for the preparation of a stable liquid prepolymer of biuret modified toluene diisocyanate.

A provisional election was made by the undersigned agent on November 23, 2005, with traverse, to prosecute the invention of Group I. At this time, Applicants confirm their provision election to proceed with prosecution of the claims (i.e. Claims 1-5 and 11-15) in Group I at this time. Thus, the remaining claims (i.e. claims 6-10 and 16-34) have been withdrawn from consideration by the preceding amendment.

Claims 1-5 and 11-15 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention.

The basis for this rejection was that in Claims 1 and 11, the claim language recites "a stable liquid biuret modified toluene diisocyanate comprising a secondary amine based biuret modified toluene diisocyanate having an NCO group content of

16 to 46% by weight, comprising the secondary monoamine and toluene diisocyanate". The Examiner stated that it is unclear from this language if biuret is required at all by the claim.

The Examiner also stated that the language in Claim 1 that recites that the "secondary monoamine may be aliphatic, aromatic or araliphatic" makes it unclear whether the secondary monoamine must contain these groups.

Applicants respectfully submit that the present claim language is definite as required by 35 U.S.C. 112, second paragraph. The requirements of the second paragraph of 35 U.S.C. 112 are addressed by the court in *In re Moore and Janoski*, 169 USPQ 236 (CCPA, 1971). The issue at hand is "whether the claims do, in fact, set out and circumscribe a particular area with a reasonable degree of precision and particularity. It is here where the definiteness of the language employed must be analyzed - not in a vacuum, but always in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing the ordinary level of skill in the pertinent art." It is respectfully submitted by Applicants that one of ordinary skill in the art would have absolutely no difficulty in understanding exactly what Applicants are presently claiming.

It is readily apparent from the claim language that claimed compositions are stable liquid biuret modified toluene diisocyanates. The preamble of the present claims further defines these as comprising a secondary amine based biuret modified toluene diisocyanate of the specified NCO group content. It is apparent that the preamble specifies biuret in two places! Thus, there is simply no basis for the Examiner's position that it is "unclear from this language if biuret is required at all by the claim". (See page 5, 4th paragraph under section heading "Claim Rejections - 35 USC § 112", lines 4-5 therein.) Although this language may be redundant, it is not unclear and/or indefinite. Redundancy is not a proper basis for a rejection of claims under 35 U.S.C. 112, second paragraph. Accordingly, it is respectfully submitted that this rejection is improper.

In addition, with regard to the issue of it being unclear whether the secondary monoamine must contain the aliphatic, aromatic or araliphatic groups, Applicants respectfully submit that it is evident from the claim language that it is the compound that contains the secondary monoamine group that may be aliphatic, aromatic or

araliphatic. One of ordinary skill in the art would readily recognize and understand this from the language in component (a) of Claim 1. It is "obvious" that the compound must have some chemical structure, and that the suitable chemical structure can be aliphatic, cycloaliphatic, aromatic or araliphatic. One of ordinary skill in the art would have no problem in knowing and understanding the meaning of the present claim language.

This is further supported by the specification on page 7, line 27 through page 8, line 27 in which suitable secondary monoamine group containing compounds are further described. In fact, the present specification provides a general chemical structure for these secondary monoamine group containing compounds with clear definitions for the variables of the structure. Numerous examples of suitable secondary monoamine group containing compounds are also set forth in the specification. Applicants therefore submit that the skilled artisan, in light of the present specification, has a reasonable degree of certainty as to exactly what subject matter would fall within the scope of the presently claimed invention. Thus, the second paragraph of 35 U.S.C. 112 is fully satisfied by the present claim language.

Finally, Applicants direct the Examiner's attention to commonly assigned U.S. Patent 6,838,542. This patent issued January 4, 2005 from U.S. Application Serial No. 10/626,026 filed in the U.S. Patent Office on July 24, 2003, which is the same day the present application was filed. This application is similar in that it is also directed to stable liquid biuret modified isocyanates. By comparison, however, the isocyanate of U.S. 6,838,542 is diphenylmethane diisocyanate instead of toluene diisocyanate as in the present application. This patent uses virtually the same language as the present claims (with the exception of the isocyanate required therein) and no issue with regard to the definiteness of the claim language was considered during the prosecution of the application that matured into the patent. This also supports Applicants position that the Examiner's position that the present claim language is indefinite is baseless.

Claims 1-3, 5 and 11-15 were rejected under 35 U.S.C. 102(b) as being anticipated by the Woerner et al reference (U.S. Patent 3,903,126).

The Woerner et al reference (U.S. Patent 3,903,126) discloses biuret group containing polyisocyanates. The biuret group containing polyisocyanates in the Woerner et al reference comprise the reaction product of aliphatic and/or cycloaliphatic diamines with polyisocyanates. These components are reacted in proportions to give an NH₂ to NCO ratio of from 1:3 to 1:100.

Applicants respectfully submit that the Woerner et al reference does not properly anticipate the presently claimed invention.

The proper standard of anticipation is one of strict identity. (See *In re Donohue*, 226 U.S.P.Q. 619 (Fed. Cir 1985).) The court clearly indicated that a rejection based on anticipation "requires a showing that each limitation of a claim must be found in a single reference, practice, or device". This is clearly not the case in the present rejection.

The Woerner et al reference describes biuret group containing polyisocyanates, including toluene diisocyanate. However, the amine group containing compound used to prepare these biuret group containing polyisocyanates is a diamine. By comparison, the present invention requires a monoamine. Thus, the amine group containing compounds required by U.S. 3,903,126 contain two amine groups instead of one amine group as in the present invention. See column 1, line 64 through column 3, line 30 of the '126 patent.

Diamines are obviously different than the monoamines required by the presently claimed invention. Also, the biuret modified diisocyanates resulting from monoamines are different than the biuret modified diisocyanates prepared from the diamines in the Woerner et al reference. Therefore, Applicants respectfully submit that the Woerner et al reference does not disclose the present invention with the specificity of an anticipatory reference. Thus, the present rejection is clearly improper and it is requested that it be withdrawn.

In addition, the Examiner's statements that given the broadest reasonable interpretation of the claims, biuret meets the requirement of a secondary monoamine group containing compound. Applicants respectfully submit that this is clearly incorrect. A biuret would obviously have two amine groups, and is therefore, not a monoamine. One of ordinary skill in the art would readily know and understand this. This is also readily apparent from the structure of the biurets as shown in the

Woerner et al reference at column 4, lines 35-43, in which more than one amine is present. Thus, the Examiner's statement relies on an improper interpretation of the phrases "secondary monoamine" and "biuret".

Furthermore, the Woerner et al reference does not teach or disclose "the preparation of biuret-containing polyisocyanates from biuret and, specifically isomer mixtures of toluene-2,4-diisocyanate and toluene-2,6-diisocyanate". As Applicants have previously stated, this reference discloses the preparation of biuret diisocyanates from the reaction of aliphatic and/or cycloaliphatic diamines with a polyisocyanate such as 2,4-toluene diisocyanate and/or 2,6-toluene diisocyanate. See column 1, line 64 through column 2, line 3; and column 3, line 48 through column 4, line 46. Applicants respectfully submit that this statement is not a proper characterization of the disclosure of the Woerner et al reference.

In view of the above, it is respectfully submitted that the presently claimed invention is not properly anticipated by the Woerner et al reference. Applicants request that this rejection be withdrawn.

Claims 1-5 were also rejected under 35 U.S.C. 103(a) as being obvious over the JP 62256893 patent (the Koizumi et al reference). This reference discloses thickeners for lubricating greases. The thickeners therein contain the reaction products of (a) a monoamine of the specified formula, (b) a diisocyanate compound of the specified formula, and (c) a diamine of the specified formula. In particular, the thickener may be the reaction product of 1.0 mol oleyl amine, 0.93 mol of a mixture of 2,4- and 2,6-toluene diisocyanate, and 0.44 mol ethylenediamine. The resulting thickener is added in an amount of from 2 to 30 wt.% to a mineral base oil to form a lubricating grease having a dropping point of 262° vs. 178° for a conventional thickener.

Applicants respectfully submit that the presently claimed invention is not obvious in view of the JP 62256893 patent. As set forth above, the stable liquid biuret modified toluene diisocyanates of the present invention comprise the reaction product of a secondary monoamine compound and toluene diisocyanate.

The thickener compound of the JP 62256893 patent comprises the reaction product of (a) a monoamine compound of the formula R_1NH_2 , (b) a diisocyanate

compound of the formula OCNR_2NCO , and (c) a diamine compound of the formula $\text{H}_2\text{NR}_3\text{NH}_2$. (Please note that Applicants have altered the formulas as shown in the abstract provided to reflect the subscripts of each formula. This does not alter the meaning as would be understood by one skilled in the art reading the abstract of the JP'893 patent.) It is evident from the formulas provided that the thickeners produced in this reference are the reaction product of (a) a primary monoamine, (b) a diisocyanate, and (c) a diamine. In the diamine, both amine groups are also primary amine groups. Thus, the JP 62256893 patent does not disclose or suggest reacting a secondary monoamine group containing compound with an isocyanate such as toluene diisocyanate as required by the presently claimed invention.

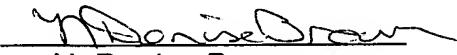
In the absence of a clear suggestion to react a secondary monoamine with the specified isocyanate by the reference, a *prima facie* case of obviousness has not been established. This reference simply does not provide any motivation to one of ordinary skill in the art to modify the reactants therein in the manner necessary to "arrive at" Applicants' invention. In the absence of additional information, the skilled artisan who had not read the present specification would not consider it obvious to modify the JP 62256893 patent in the manner necessary to "arrive at" the presently claimed invention.

Only on hindsight does it become "obvious" to substitute a secondary monoamine for the primary monoamine and for the primary diamine compounds required by the HP 62256893 patent, and that stable liquid biurets can be prepared from these two components. Such a perspective does not, however, provide a proper basis for a rejection under 35 U.S.C. § 103.

Accordingly, Applicants respectfully submit that the presently claimed invention is not properly rejected as being obvious under 35 U.S.C. 103(a) over the JP 62256893 patent. It is requested that this rejection be withdrawn.

In view of the preceding remarks, it is evident that these rejections are in error and should be withdrawn. The allowance of Claims 1-5 and 11-15 is respectfully requested.

Respectfully submitted,

By 
N. Denise Brown
Agent for Applicants
Reg. No. 36,097

Bayer MaterialScience LLC
100 Bayer Road
Pittsburgh, Pennsylvania 15205-9741
(412) 777-3804
FACSIMILE PHONE NUMBER:
(412) 777-3902

f:\shared\kpl\db210.ame